Tennessee State Water Supply

December 1, 2008

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Presentation Outline

- Scope of Studies
- Schedule and Cost
- Area of Study
- Water Supply Plan
- Future Direction

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Scope of Studies

The purpose of this study phase is to:

- **Assess existing water source information, and water source uses**
- **Document existing resource information**
- **Use Tennessee Department of Environment and Conservation as a regional pilot**
- **Develop a scope of work for the next phase**

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Tasks

- Compile general basin information within the planning region
- Search for existing studies
- Collect data to establish a GIS database
- Initiate analysis of existing source yield

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Schedule

- **SEPT 2008**
  Sign cost sharing and agreement
- **OCT 2008**
  Funding Received
- **Nov 2008**
  Project Steering team meets to discuss implementation plans
- **December 2008**
  Water Resources Technical Advisory Board meets to discuss implementation
  Corps contacts water utilities and collects information
- **JAN 2009**
  Preliminary report
- **FEB 2009**
  Draft presentation for Sponsor/Corps input
- **MARCH 2009**
  Report complete

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Cost

- $ 35,000 State of Tennessee
- $ 35,000 Federal
- $ 70,000 Total Study Cost

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North Central Study Area

- **Portland**
- **Westmoreland**
- **Castalian Springs**

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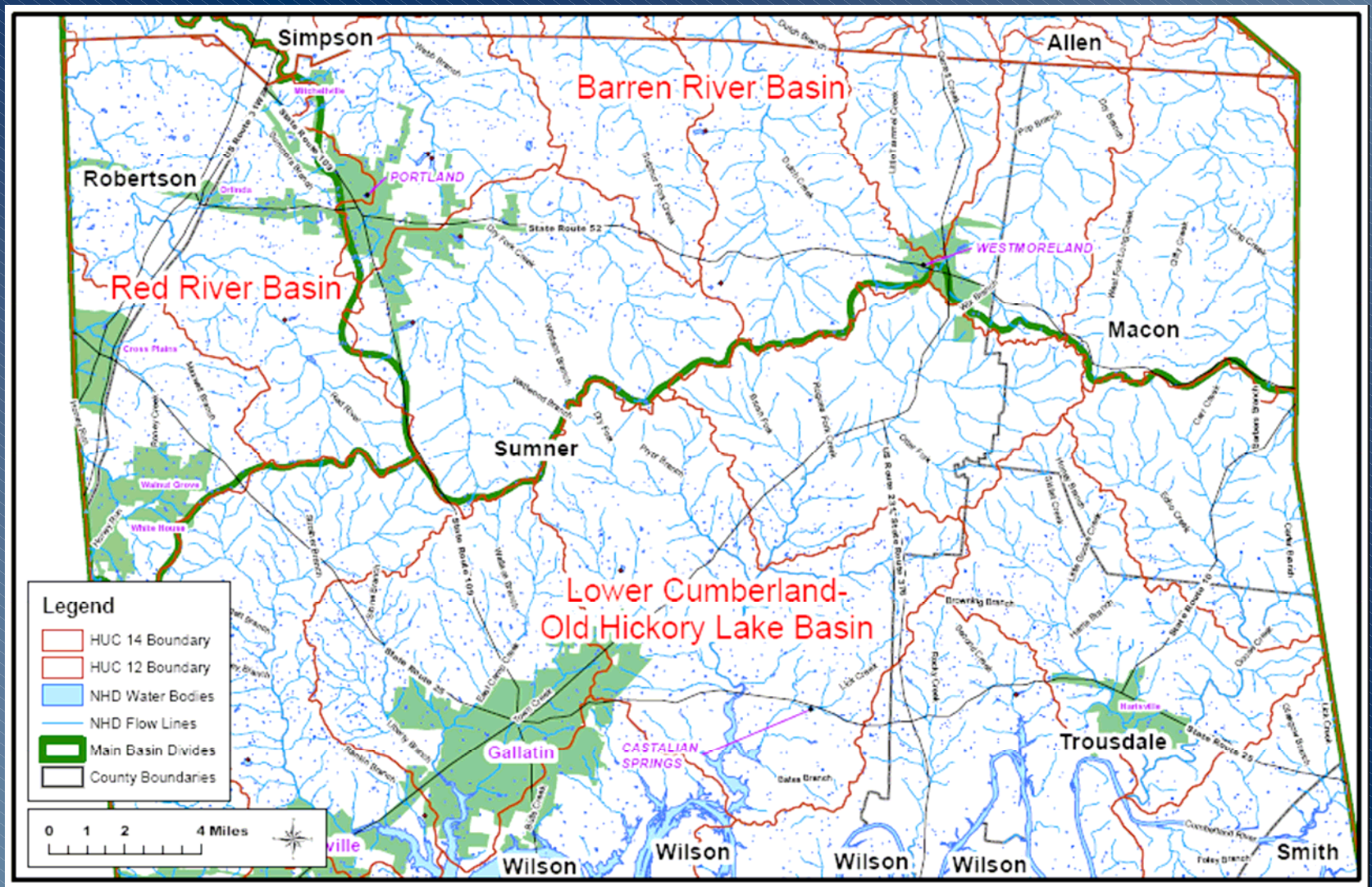
North Central Study Area



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North Central Study Area Water Use

County, PWSID and system	Source of Supply	Withdrawal (mgal/d)	Water Purchased	Water Sold (mgal/d)	Gross water use (mgal/d)	Population serve	Gross per capita use (gal/d)	Storage capacity (million gallons)	Design Capacity (million gallons
Portland	City Lake Drakes Creek Franklin, KY (seller) Sportsman Lake White House UD (seller)	**1.016** **0.661** **0.048**	 **0.017** **0.011**		**1.753**	**12,844**	**136**	**1.52**	**2.30**
Westmoreland	Gallatin WD (seller) Castalian Springs Bethpage UD (Buyer)		**0.412**	**0.036**	**0.376**	**3,324**	**113**	**0.500**	**-----**
Castalian Springs – Bethpage Utility Department	Westmoreland WS (seller) Gallatin WD (seller) Hartsville WD (seller		**0.036** **0.888** **0.027**		**0.951**	**7,202**	**132**	**0.913**	**------**

Source; USGS Report Public Water-Supply Systems and Associated Water use in Tennessee, 2000

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Southern Cumberland Plateau

- Sewanee
- Tracy City
- Monteagle
- Big Creek?

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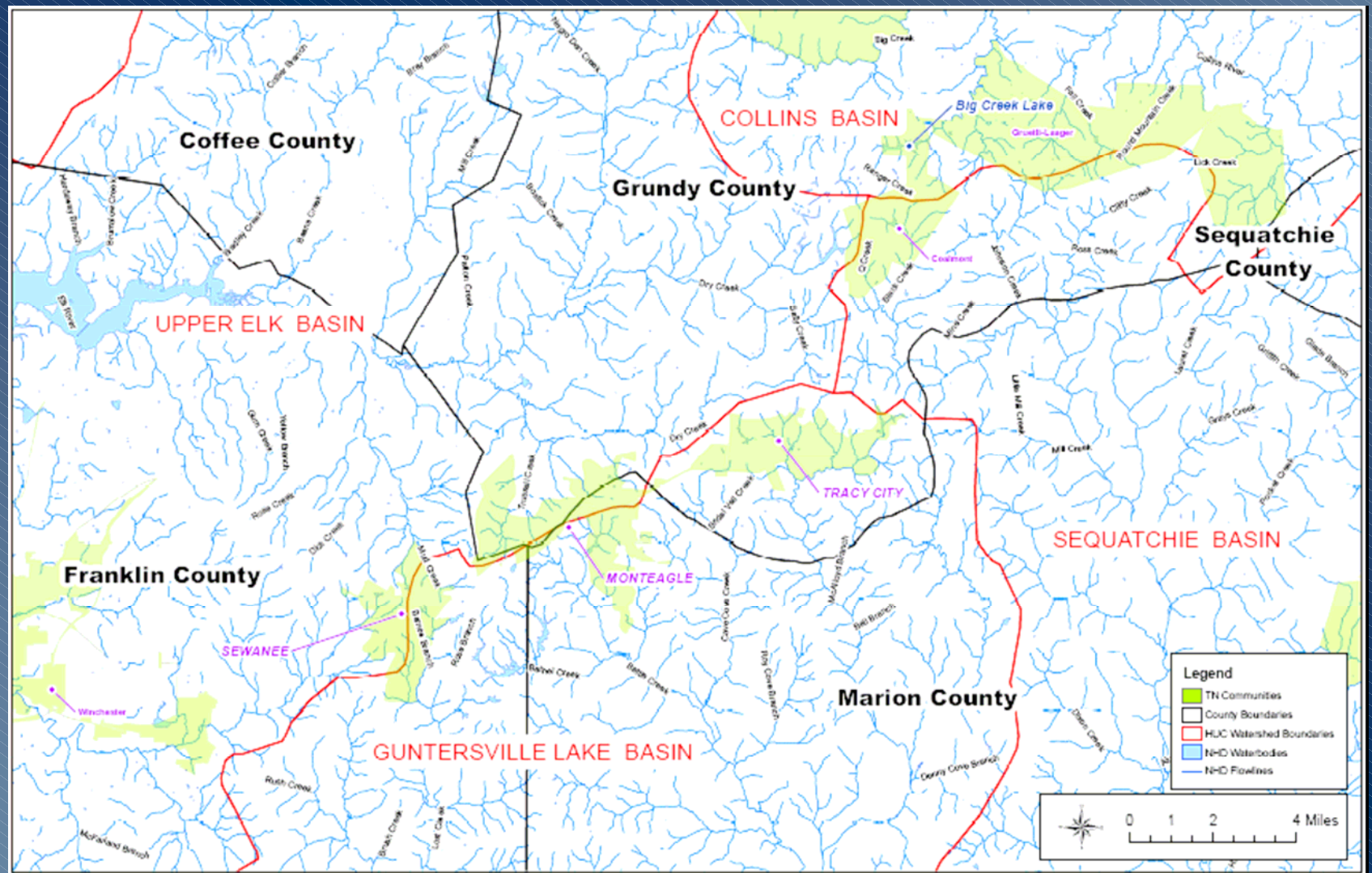
Southern Cumberland Plateau Study Area



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Southern Cumberland Plateau Study Area Water Use

County, PWSID and system	Source of Supply	Withdrawal (mgal/d)	Water Purchased	Water Sold (mgal/d)	Gross water use (mgal/d)	Population serve	Gross per capita use (gal/d)	Storage capacity (million gallons)	Design Capacity (million gallons
Sewanee	Lake O'Donnell	0.320			0.320	4,315	74	0.643	0.691
Tracy City	Big Fiery Gizzard Foster Falls UD* (buyer)	0.392		0.021	0.371	3,542	105	0.978	0.806
Monteagle	Laurel Creek Lake	0.354			0.354	3,256	109	0.500	0.703

Source; USGS Report Public Water-Supply Systems and Associated Water use in Tennessee, 2000

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Water Supply Plan

Current Water Source Information

1. Identify sources and connection to other utilities.
2. Include treatment and storage systems capacities.
3. Obtain design capacity of the treatment and storage system
4. Identify self-supplied users (e.g., industries, residences, etc.)

Current water use information

1. Estimate water used by self-served users
2. Determine the capacity of the interconnections between system and an inventory of unserved areas
3. Determine population served, number of connections, significant losses
4. Map the location of service lines

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Water Supply Plan (continued)

Available resource information

1. Collect information from TDEC on factors affecting existing sources
2. Obtain locations relative to other withdrawals or dischargers
3. Identify potential threats to sources

Projected water demand information

1. Provide 30 to 50 year demand forecast by the public water system
2. Estimate demand of any areas the system expects to extend services to

Alternative source information

1. Identify alternative sources that are available
2. Identify resource issues
3. Identify issues with alternative resources

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Water Supply Plan (continued)

Alternative analysis

1. Identify present sources adequate for project needs
2. Identify alternatives or new sources between system

Public notice and opportunity for public comment

1. Involve the public in water planning
2. Consider National Environmental Policy Act (NEPA) concerns

Administration of the plan

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Future Direction?

- Water demand projection
- Existing source yield analysis
- Critical drought scenarios
- Present and proposed drought contingency plans
- Possible alternative sources
- Alternative's firm Yield
- Potential threats to sources
- Possible opportunities for conservation